



UNITED STATES PATENT AND TRADEMARK OFFICE

[Signature]

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,386	04/08/2004	Norman M. Ladouceur	555255012632	8432

7590 11/09/2006
Lorri W. Cooper, Esq.
Jones Day
901 Lakeside Avenue/North Point
Cleveland, OH 44114

EXAMINER

COLILLA, DANIEL JAMES

ART UNIT PAPER NUMBER

2854

DATE MAILED: 11/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/820,386

Applicant(s)

LADOUCEUR, NORMAN M.

Examiner

Daniel J. Colilla

Art Unit

2854

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2004 and 15 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-15 is/are allowed.
- 6) ☒ Claim(s) 16-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4/8/04; 10/15/04</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: on page 3, lines 30-31, applicant describes Figures 2 and 3 by mentioning the contents of claim 1. This is improper since the contents of claim 1 may change during the prosecution of the application while the Figures will not change.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

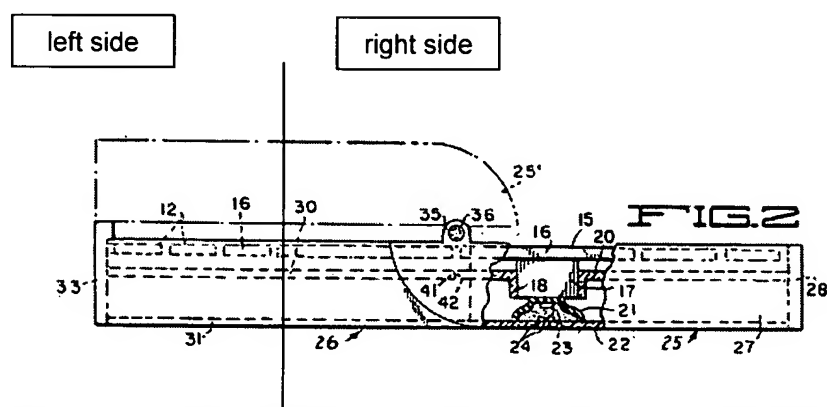
3. Claims 16-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Chiu et al. (US 5,457,453).

With respect to claim 16, Chiu et al. discloses a switch configuration for use with a keyboard comprising a plurality of support structures 22 (one for each of the keyboard units 25 and 26) positioned adjacent each other in spaced relation when in the position indicated by the phantom lines as shown in Figure 2. Chiu et al. further discloses a plurality of dome switches 21 as mentioned in col. 3, lines 33-43 and shown in Figure 2.

Art Unit: 2854

With respect to claim 17, the plurality of support structures 22 are arranged vertically in parallel relation to one another when in the position shown by the phantom lines in Figure 2 of Chiu et al.

With respect to claim 18, the support structures have a left side and a right side as shown below:



It can be seen that due to the key arrangement shown in Figure 1, the right side of the support structures as shown above will have a plurality of the dome switches (each key having a dome switch).

With respect to claim 19, although not explicitly disclosed as circuit boards, since support structures 22 are boards and they include circuits (not shown, see col., 3, lines 39-43), these structures are circuit boards. With respect to the term “printed” since this is an apparatus claim, the method of how the circuit boards holds no patentable weight since it appears to result in no structural difference.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Warren (US 2003/0153355) in view of Chiu et al. (US 5,457,453).

With respect to claim 20, Warren discloses a mobile communication device including a housing 14, a display 20 and a keyboard 16 with a plurality of keys as shown in Figure 1 of Warren. However, Warren does not disclose a specific switch configuration. Chiu et al. teaches a switch configuration as mentioned in the above rejection of claim 16. It would have been obvious to combine the teaching of Chiu et al. with the mobile communication device disclosed by Warren for the advantage of the foldable keyboard of Chiu et al. that enhances portability of the device.

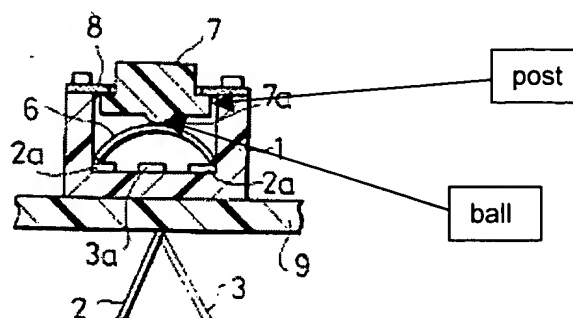
With respect to claim 21, Chiu et al. teaches a plurality of keys with an upper contact surface 16 and a lower surface with an actuator 17 coupled to the lower surface and extending outwardly toward the dome switches as shown in Figure 2 of Chiu et al.

6. Claim 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Warren (US 2003/0153355) in view of Chiu et al. (US 5,457,453), as applied to claim 21 above, and further in view of Kagawa et al. (US 4,894,498).

Art Unit: 2854

Warren in view of Chiu et al. discloses the mobile communication device except of the ball coupled to the end of a post. However, Kagawa et al. teaches a key with a post and ball as shown below in the Figure taken from Figure 3 of Kagawa et al.:

Fig. 3



It would have been obvious to combine the teaching of Kagawa et al. with the mobile communication device disclosed by Warren in view of Chiu et al. for the advantage of a more pointed reliable contact to make the connection of the key.

Allowable Subject Matter

7. Claims 1-15 are allowed.
8. The following is a statement of reasons for the indication of allowable subject matter:
Claims 1-15 have been allowed primarily for the first and second support structures; the first support structure having a plurality of apertures ; each of the second dome switches being aligned with one of the plurality of the plurality of apertures.

Art Unit: 2854

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chadha and Konno are cited as related art with two support structures for keys in a keyboard. Olson is cited as prior art with multiple support structures of keys in a keyboard.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Colilla whose telephone number is 571-272-2157. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached at 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

November 1, 2006



Daniel J. Colilla
Primary Examiner
Art Unit 2854